

anomaly (12/280 children with sensorineural hearing loss were found to have an anomaly and all had this pattern).

Serologic testing for lues, biochemistry studies for thyroid or renal dysfunction and serial viral titer determinations in mother and child may be required.

A polytomographic defect must be excluded on x-ray studies. It has been recognized that minor shortening of the cochlea may be a feature of the Mondini anomaly. The presence of such an anomaly does not of itself imply hearing deterioration and the other conditions should be satisfied before therapy is recommended.

A glycerol test should be done for both prognostic and diagnostic reasons. If findings are positive, a trial of salt restriction and oral administration of diuretics for three months is worth while. If findings are negative, this medical regimen (sometimes called conservative therapy) can still be used, though its continuation during a relentless hearing deterioration to the point that the ear is unaidable cannot be defended as "conservative."

At this point a surgical approach may be considered with the parents. The empiric nature of the procedure needs to be stressed together with the risks (5 percent profound hearing loss, 20 percent mild hearing loss). Stabilization of hearing, not restoration, is the aim, and this has been reported for the Mondini deformity only. This approach may be applicable to nonradiographically defective ears. Until further scientific evidence appears, however, we must exercise caution in our enthusiasm to help these unfortunate children.

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Cineradiography in the Evaluation of Obstructive Sleep Apnea

THE SYNDROME of obstructive sleep apnea is becoming more widely recognized by pediatricians, internists and otolaryngologists. In a recent issue of this journal, Rowe in his epitome "Obstructive Sleep Apnea" (1980 Oct; 133:324-325) gave a brief synopsis of this syndrome.

The use of cineradiography during normal

sleep, that is, not induced by a sedative, is now an essential tool in the evaluation of obstructive sleep apnea syndrome. A patient is allowed to fall into a natural sleep in the radiology suite. During periods of both obstructed and nonobstructed respirations, the nasopharyngeal, oropharyngeal and hypopharyngeal structures can be functionally evaluated. This method allows a clinician to noninvasively determine whether there is obstruction due to poor support of the tongue musculature, a mass lesion or failure to maintain a supraglottic airway due to collapse of the lateral pharyngeal walls or the supraglottic laryngeal structures.

Use of this technique can assist head and neck surgeons and pediatric and medical colleagues to obtain a more accurate assessment of the anatomic cause of obstructive sleep apnea and, thus, allow more specific, definitive therapeutic intervention.

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The Treatment of Rhinitis With Topically Administered Steroids

THE TREATMENT of vasomotor and allergic rhinitis is often quite difficult. Antihistamine and decongestant preparations given orally frequently produce the unwanted side effects of thickened secretions and central nervous system sedation or stimulation. Topically administered decongestants can produce rebound nasal obstruction, and dexamethasone aerosol has been shown to suppress adrenal activity. New flexibility is now available in the treatment of rhinitis since the Food and Drug Administration has recently approved the use of two new intranasal steroid sprays.

Beclomethasone dipropionate and flunisolide are both synthetic steroids that in multiple clinical studies have been more effective than a placebo spray in relieving the symptoms of vasomotor and allergic rhinitis. These effects are localized, and several studies cite examples of considerable relief of nasal symptoms with no effect on associated complaints of itching, burning eyes and excessive tearing. No adrenal suppression has been shown

with use as prescribed; however, suppression is possible with overuse of either preparation. *Candida* infection has not been a problem. Common side effects with both preparations include frequent nasal irritation and dryness that usually do not necessitate discontinuing treatment. Most reports show a decrease in the incidence of epistaxis with spray use, but there have been a few instances of mild epistaxis that have probably been related to use of the sprays. In two studies comparing the use of beclomethasone dipropionate with flunisolide, no significant difference was noted in their effectiveness or in the incidence of side effects. Patients and physicians favored the drugs equally.

Both sprays are contraindicated in the presence of an active nasal infection. Effectiveness is usually seen within the first few days to two weeks of use, and topical or oral administration of decongestants may be needed until effectiveness is shown.

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Digital Subtraction Videoangiography

DIGITAL SUBTRACTION VIDEOANGIOGRAPHY (DSVA) is a recent angiographic development in which a low level (2 percent to 4 percent) of contrast material is detected with a videofluoroscopic apparatus operating at one frame per second. The image is then converted to digital form that is in turn computer processed immediately by electronic subtraction and a number of electronic enhancement techniques. This technology was designed as a noninvasive method of detecting arteriosclerotic disease in high risk or low yield situations to obviate some of the disadvantages of conventional catheter angiography. It has been applied to the study of a wide range of vascular occlusive diseases, both diagnostically and to assess patency following vascular reconstructions.

DSVA is a study that is safe, economical, reliable and can be done on an outpatient basis with intravenous administration of contrast material. Selected catheter arteriography may also be carried out with this technology, with the advantages

of reduced volumes of contrast medium and the availability of immediate subtraction views. Disadvantages of the study include deterioration of the quality of the study by patient motion and simultaneous visualization of all vessels with intravenous administration of the contrast medium.

Experience with this procedure in the past year has shown its usefulness in evaluating pulsatile tinnitus due to arteriovenous malformations, as well as in evaluating anomalous venous return and multiple myeloma of the temporal bone. Glomus tumors and other vascular tumors of the base of the skull have been evaluated and treatment response monitored. A vascular injury from a gunshot wound was also satisfactorily evaluated without conventional angiography. Vertebrobasilar artery patency and jugular venous patency have also been assessed.

Further experience is needed to more exactly define the role of this procedure. The greatest benefits appear to be a low risk method of screening vascular symptoms and lesions of the head and neck and a method for determining the presence of residual diseases and responses to treatment.

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Recent Advances in the Treatment of Serous Otitis Media

IN AN AWARD-WINNING random study, Gebhardt reported the efficacy of tympanostomy and ventilating tubes for the treatment of recurrent otitis media. In a prospective study tympanostomy with tube placement was shown to significantly decrease the number of episodes of acute otitis media and to be an effective method of prophylaxis for an otitis-prone child, when compared with conventional antibiotic therapy.

The long-term effects of untreated middle ear effusion on learning ability were studied during the past year. Auditory processing abilities in children with persistent middle ear effusions have been a matter of concern since animal studies showed permanent anatomic deficiencies in the